TYPICAL INSTALLATION PROCEDURE FOR MODULAR RUBBER CUSHION

1. LAY OUT PIECES FOR THE CUSHION (REFER TO MODULAR RUBBER CUSHION SPEED HUMP MARKINGS SHEETS AND TO SPEED HUMP CUSHION SPACING CHART). PLACE THE ANGLE IRONS IN THE INDENTATION/GROOVE OF THE CUSHION. ALL JOINTS BETWEEN PIECES SHOULD BE TIGHTLY JOINED. THE ARROW MARKINGS ON THE RAMP PIECES SHOULD FACE THE CORRECT DIRECTION ON THE STREET (ARROWS POINT IN THE DIRECTION OF TRAFFIC)

2. SLIDE THE CORNER AND THE TWO CENTER RAMP PIECES OUT TO EXPOSE THE HOLES IN THE ANGLE IRONS.

3. DRILL THROUGH THE ANGLE IRON HOLES TO A DEPTH OF 4 INCHES INTO THE PAVEMENT.

4. BLOW ALL DEBRIS OUT OF HOLES.

5. INSERT TWO (2) PUMPS OF RESIN INTO EACH HOLE FOLLOWED BY A FLAT, TORQUE HEAD BOLT AND PLASTIC ANCHOR (ASSEMBLE THE BOLT AND ANCHOR AND HAMMER IN IMMEDIATELY AFTER PLACING RESIN BECAUSE THE RESIN WILL SET QUICKLY IN BOTH THE HOLE AND RESIN GUN - APPROX. 2-4 MINUTES)

6. USE IMPACT WRENCH TO DRILL BOLTS INTO THE ANGLE IRON. DO NOT OVER IMPACT BOLTS BECAUSE STRIPPING WILL OCCUR.

7. REPLACE CORNER PIECES AND TWO CENTER RAMP PIECES.

8. DRILL THE PAVEMENT APPROX. 7 INCHES THROUGH EACH OF THE HOLES IN THE CUSHION PIECES (4 INCHES INTO PAVEMENT).

9. BLOW ALL DEBRIS OUT OF HOLES.

10. INSERT TWO (2) PUMPS OF RESIN INTO EACH HOLE FOLLOWED BY A HEX HEAD BOLT, WASHER AND PLASTIC ANCHOR (ASSEMBLE THE WASHER, BOLT, AND ANCHOR THEN HAMMER IN THE HOLE IMMEDIATELY AFTER PLACING RESIN BECAUSE THE RESIN WILL SET QUICKLY IN BOTH THE HOLE AND RESIN GUN - APPROX. 2-4 MINUTES)

11. USE IMPACT WRENCH TO DRILL BOLTS INTO THE CUSHION PIECES. DO NOT OVER TIGHTEN BOLTS BECAUSE STRIPPING WILL OCCUR.

12. INSERT RUBBER PLUGS.

13. BOLT INSTALLATIONS SHALL BE VERIFIED BY THE INSPECTOR BEFORE THE RUBBER PLUGS ARE INSTALLED.

PROCEDURE FOR PICKING UP SPEED HUMP MATERIAL AT COSA FACILITY

1. THE SPEED HUMP MATERIAL WILL BE STORED AT THE TRAFFIC OPERATIONS FACILITY AT 223 S. CHERRY ST., SAN ANTONIO, TX 78203.

2. SPEED HUMP MATERIAL MAY ONLY BE COLLECTED DURING THE WEEKDAY BETWEEN THE HOURS OF 7:30AM AND 4:30PM.

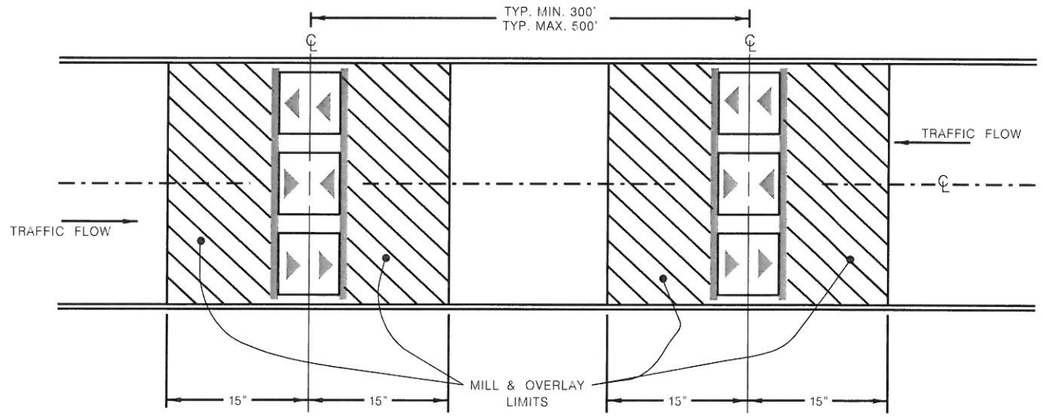
3. CONTRACTOR WILL CONTACT SPEED HUMP COORDINATOR, KENNARD GIVENS AT 215-5127 AT LEAST 24 HOURS IN ADVANCE TO SCHEDULE A TIME TO PICK UP THE MATERIAL.

4. INSPECTOR MUST BE PRESENT WHEN MATERIAL IS COLLECTED.

SPEED CUSHION SPACING

Pavement Width (ft)	Pavement Width (in)	No. of Cushions	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)	Cushion (in)	Gap (in)
20	240	2	30	75	30	75	30						
21	252	2	34	75	34	75	34						
22	264	2	39	75	36	75	39						
23	276	2	45	75	36	75	45						
24	288	2	48	75	42	75	48						
25	300	2	51	75	48	75	51						
26	312	3	21.5	75	22	75	22	75	21.5				
27	324	3	24	75	25.5	75	25.5	75	24				
28	336	3	27.5	75	28	75	28	75	27.5				
29	348	3	30.5	75	31	75	31	75	30.5				
30	360	3	33.5	75	34	75	34	75	33.5				
31	372	3	37.5	75	36	75	36	75	37.5				
32	384	3	40.5	75	39	75	39	75	40.5				
33	396	3	42.5	75	43	75	43	75	42.5				
34	408	3	45.5	75	46	75	46	75	45.5				
35	420	3	48	75	49.5*	75	49.5*	75	48				
36	432	4	48	75	12	75	12	75	12	75	48		
37	444	4	48	75	16	75	16	75	16	75	48		
38	456	4	48	75	20	75	20	75	20	75	48		
39	468	4	48	75	24	75	24	75	24	75	48		
40	480	4	48	75	28	75	28	75	28	75	48		
41	492	4	48	75	32	75	32	75	32	75	48		
42	504	4	48	75	36	75	36	75	36	75	48		
43	516	4	48	75	40	75	40	75	40	75	48		
44	528	4	48	75	44	75	44	75	44	75	48		

* INDICATES THAT MEASUREMENTS ARE ABOVE MAX. SPACING



MILL AND OVERLAY LIMITS

CITY OF SAN ANTONIO, TEXAS
DEPARTMENT OF PUBLIC WORKS TRAFFIC ENGINEERING DIVISION

SPEED HUMP, TYPE II

Sheet 2 of 2

DRWN.BY: RC MAY.2004 | APPR.BY: TRAFFIC DESIGN ENGINEER | REF.NO: | SCALE: NTS
DSGN.BY:
CHKD.BY: | APPR.BY: | PLAN NO.